An Essay on Cynanche Tracheali or Croup

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Cynanche Tracheali.

The vulgar name of this disease in Scotland is Croup and in this country it is Hives. The latter is a corruption of the word heaves, which took its rise from the manner in which the lungs heave in respiration.

It has been called suffocatio stridula by Dr. Home and cynanche trachealis by Dr. Cullen. Dr. Frank called it trachitis and Dr. Darwin considered it as a pleurisy of the windpipe. When a liquid matter has been found in the trachea, it has been denominated humoral, and when a membrane has been seen adhering to the trachea it has received from Dr. Michaelis the name of angina polyposa.

The Croup, according to the definition given of it by Dr. Cullen, consists "in an inflammation of the glottis, larynx or the upper part of the trachea, whether it affects the membranes of these parts or the muscles adjoining." In this definition, the learned Cullen appears to have departed a little from his usual accuracy and precision, as the disease is not confined to the upper portion of the trachea, but also most usually extends itself to the whole internal surface of the windpipe, even into the bronchia and to a degree throughout the lungs. The appearances upon dissection related by Dr. Cheyne in the last edition of his valuable work on this subject, give us abundant proof of what has just been advanced.

The Croup is less known in the temperate than in the northern regions of America

It occurs chiefly in the winter and spring. It is very prevalent in low situations exposed to an atmosphere passing over large bodies of water. It is, in short, brought on by those causes which induce fevers, pleurisies and other inflammatory diseases in cold and changeable climats.

It not unfrequently makes its appearance suddenly, but oftener creeps on in the form of a slight catarrh and the child for a day or two appears drowsy, fretful and inactive.

This disease is sometimes attendant on other affections of the system. Dr. Rush remarks "I have seen it accompany as well as succeed the small pox, measles, scarlet fever and aphthous sore throat". Hence the propriety of dividing this disease into two species, viz. idiopathic and symptom-

ate croup; idiopathic, when the disease is primarily and exclusively seated in the trachea, bronchea and surface of the lungs; symptomatic, when it is the consequence of some other previous disease

The Croup attacks children of all ages from a short time after birth until pubertey. But the disease is generally confined to children from the age of one year to eight or ten. It but very seldom seizes children before they are weaned. It sometimes attacks adults. The robust and healthy children are particularly liable to this complaint. It occurs but rarely in children exhausted by some other disease. The children of some families seem to be more subject to attacks of croup than others. Dr Cheyne tell us that he has had the clearest proof of this "It is difficult

he remarks "to say whether this arises from a particular mode of education or is owing to peculiarity of constitution, which children of the same family have in common.

The Croup may be divided for practical utility into three stages. The first may be denominated the forming stage, the second the febrile stage, the third the purulent or last stage.

In the first stage, the affection is local, the irritation has not extended to the whole system, the patient is drowsy and inactive, his skin is cool and moist, his pulse not much accelerated, his hoarse and hallow sounding cough, his whizzing respiration, his restlessness and his cries after a fit of coughing, all point out

the nature of the disease.

In the second stage, the whole system partakes of the irritation, the pulse is hard, so frequent, the skin hot and dry, respiration hurried, the tongue is covered with a white fur indicative of inflammation, the lips and cheeks are remarkably florid, the cough is frequent and attended with an acute sound, every inspiration is attended with a more uniform whizzing than in the first stage; the child has not a moments relief from his suffering and in a short time, if the most energetic means are not employed for his relief, the countenance becomes purple ~~and~~ stupor comes on, and death either puts a period to all his sufferings or the disease runs on to its last stage.

In the last stage the effusion of

coagulable lymph has taken place, the symptoms of fever subside. The child is apparently free from pain, but suffers violent paroxysms of coughing attended with irregular and spasmodic respiration as in asthma and with similar intervals of ease. These paroxysms in very young children continue but a short time before dissolution. But in children arrived at the age of eight or ten years, they frequently continue for four or five days.

The appearances to be observed on dissection when Croup has terminated fatally, we are informed by Dr. Bailli, are, a layer of a yellowish pulpy matter, lining the inner membrane of trachea, extending from the upper part of the cavity of the larynx into the small

branches of the windpipe, which are distributed throughout the substance of the lungs; a good deal of mucus in the trachea and its branches, together with a mixture of pus.

In a number of dissections, which I made last spring, under the direction of my preceptor, the following appearances were observed in the trachea and lungs. 1st. A slight degree of inflammation. 2d. A thick puriform matter. 3d A membrane similar to that, which succeeds inflammations of the pleura and bowels. 4th In one case the trachea, the bronchia and the lungs exhibited no marks of disease of any kind. This case was violent and terminated suddenly.

When Croup terminates fatally, —

the patient is either destroyed by the violence of the morbid excitement or the inflammation ~~has~~ terminates by effusion. This effusion is a thick opaque substance, in quality very much like coagulable lymph, which, poured out on the inflamed surface of the trachea, & there deprived of its aqueous parts, constitutes the membrane so frequently found on dissection. That this is a rational explanation is proved beyond a doubt by analogies from other diseases, for a membrane similar to this is found upon other secreting surfaces as in diseases of the pleura and intestines.

Respecting the treatment to be adopted for the cure of croup, I find no little difference of opinion among writers on the subject. Various remedies

have been employed for its cure, some of which possess powers very opposite in their nature. It is not my intention to consider all the remedies, which have been recommended, but merely to consider that plan of treatment, which appears to me the most successful. What I have to say on the subject, I shall arrange under three heads as applied to the three stages of the disease.

1st. The treatment of the first stage. In this stage of the disease, the best writers on the subject, direct us to use the most active means to restore the suppressed secretions of the trachea and surface of the lungs, and, by freely opening the bowels and inducing perspiration, to guard against the general excitement of the system. For this purpose we are to

administer an emetic composed of tartarized antimony and ipecacuanha. The dose for a child under two years old is from one to two grains of the former, with from four to ten grains of the latter. The dose is to be repeated every half hour till it produces a plentiful secretion from the lungs. To prove effectual it should operate four or five times smartly. Children will bear exceedingly well the operation of this class of medicines. If the bowels are not opened by the emetic a dose of calomel ought to be administered.

Calomel should always be given in large doses. A physician of considerable eminence, informed me that he had given calomel in the dose of a drachm to a child four months old with

the happiest result. When given in large doses it seldom excites salivation. Dr. Rush remarks, "I have never known it to excite a salivation, when given to children, whose ages rendered them fit subjects for it." Its good effects seem to depend upon its exciting a counteraction in the whole intestinal canal and thereby lessening the disposition of the tracheal blood-vessels to discharge the mucus or form the membrane, which has been dis-ribed.

2d. The treatment of the second stage. In this stage of Croup, so great is the determination of blood to the part affected and such is the general excitement of the system, the most prompt and efficacious means of reducing arterial action and of lessening the irri-

tation of the part affected, becomes indispensably necessary. The first thing is to let blood either from the jugular vein or the arm; to do this suddenly is of the utmost importance in this as well as in all other inflammatory diseases. If the violent symptoms continue after the first bleeding it ought to be repeated. The bleedings in urgent cases must be large - often ad deliquium animi - this will sometimes arrest the disease like a charm. But notwithstanding the power of the lancet, in this stage of Croup, the urgency of symptoms often require auxiliary remedies.

The first and most powerful of these is the tartarized antimony, which should always be given either in full

or nauseating doses during the violence of the disease.

The second auxiliary remedy is a purge, composed of calomel and jalap or rhubarb. It should ever follow the use of the antimony, if it fails to open the bowels.

The third remedy consists in blisters applied to the throat or breast, to the back part of the neck or extremities.

The last remedy, I shall mention is the warm bath. This is very unequivocal in its operation and seldom fails to give great relief. It is a most agreeable remedy.

3d. The treatment of the third stage.
In this stage, calomel in small and repeated doses, squills, the senika snakeroot and the vapour of vinegar and water are the remedies, which promise the greatest utility. These are the remedies best calculated to excite the secretions of the lungs without impairing the general powers of the system. Laudanum by quieting the cough will often produce the most salutary effects.

The sulphate of zinc has been employed with decided advantage in this stage of Croup. Dr. Francis of the city of New York used the sulphate of zinc after the membrane was formed with the happiest result.

The hepar sulphuris has been strongly recommended in France as successful in the cure of Croup.

When the disease resists all our remedies it has been recommended to perform the operation of laryngotomy, which affords the only chance of escape from suffocation by enabling the patient to breathe till the inflammation and swelling of the larynx may have time to subside. This operation when performed in an early stage of the disease is sometimes of the highest importance. When it is resorted to in the last stage of the complaint with the idea of extracting the adventitious membrane, it never is attended with any advantage. Such is the opinion of those surgeons, who have tryed the experiment.